"The IR is a Nice Thing But...": Attitudes and Perceptions of the Institutional Repository

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Résumé de l'article
Quelles attitudes et perceptions ont les membres du corps professoral, les étudiant.e.s des cycles supérieurs et les autres intervenant.e.s à l'égard du dépôt institutionnel (DI)? J'ai mené une étude à l'Université de Western Ontario au moyen d'un sondage auprès de 316 participant.e.s de diverses facultés et occupant des postes allant d'étudiant.e.s de second cycle à des membres permanents du corps professoral, suivi d'entrevues avec 10 membres du corps professoral et 3 bibliothécaires pour discuter des résultats globaux du sondage. Les résultats suggèrent une ligne de conduite pour les bibliothécaires qui travaillent avec les DI, en fonction des perceptions des participant.e.s sur les obstacles à l'utilisation (image de marque, propriété des données, résistance au libre accès (LA), alternatives permettant l'auto-archivage) et des éléments de DI que les participant.e.s apprécient et trouvent motivants à utiliser (accès continu pour les diplômé.e.s, les mémoires et les thèses, des revues de documentation en pré-impression, la satisfaction des mandats LA). Les prochaines étapes suggérées pour promouvoir l'adoption des DI couvrent un certain nombre de domaines différents: dépôt par médiation; clarifier les avantages pour les membres du corps professoral; communication entre la bibliothèque et les utilisatrices et utilisateurs; avantages d'adhésion; titularisation et promotion; application des mandats d’LA; et collaboration.

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ABSTRACT
What attitudes and perceptions do faculty members, graduate students, and other stakeholders have regarding the institutional repository (IR)? I conducted a study at the University of Western Ontario through a survey of 316 participants from various faculties and in roles ranging from graduate students to tenured faculty members, followed by interviews with 10 faculty members and 3 librarians to discuss aggregate results from the survey. Results suggest a course of action for librarians who work with IRs, based on participants’ perceptions of barriers to use (branding, data ownership, resistance to open access (OA), alternative avenues for self-archiving) and elements of the IR participants enjoy and find motivating for use (continued access for graduates, dissertations and theses, pre-print literature reviews, satisfying OA mandates). Suggested next steps to promote IR uptake cover a number of different areas: mediated deposit; clarify benefits for faculty members; communication between library and users; opt-in features; tenure and promotion; enforcing OA mandates; and collaboration.

Keywords: institutional repository · open access · scholarly communication

RÉSUMÉ
Quelles attitudes et perceptions ont les membres du corps professoral, les étudiant.e.s des cycles supérieurs et les autres intervenant.e.s à l’égard du dépôt institutionnel (DI)? J’ai mené une étude à l’Université de Western Ontario au moyen d’un sondage auprès de 316 participant.e.s de diverses facultés et occupant des postes allant d’étudiant.e.s de second cycle à des membres permanents du corps professoral, suivi d’entrevues avec 10 membres du corps professoral et 3 bibliothécaires pour discuter des résultats globaux du sondage. Les résultats suggèrent une ligne de conduite pour les bibliothécaires qui travaillent avec les DI, en fonction des perceptions des participant.e.s sur les obstacles à l’utilisation (image de marque, propriété des données, résistance au libre accès (LA), alternatives permettant l’auto-archivage) et des éléments de DI que les participant.e.s apprécient et trouvent motivants à utiliser (accès continu pour les diplômé.e.s, les mémoires et les thèses, des revues de documentation en pré-impression, la satisfaction des mandats LA). Les prochaines étapes suggérées pour promouvoir l’adoption des DI couvrent un certain nombre de domaines.
INSTITUTIONAL repositories (IRs) have been in use for approximately 15 years, but have increased in popularity and use more recently (Tillman 2017). Scholarship@Western, the IR at the University of Western Ontario (generally known as Western) where I undertook this study, started more than 10 years ago as a small project but has grown in content as well as resources supporting it since. Western uses bepress’ Digital Commons platform to host their IR. In 2017, bepress was purchased by Elsevier (Elsevier 2017). This study emerged from my observations of concern over the ownership of bepress within the Faculty of Information and Media Studies, where I was enrolled as a student at the time the study began.

Literature Review
Recent research on IRs shows that uptake on self-depositing is limited (Kim 2011; Tillman 2017). One well documented barrier to IR content recruitment is faculty member resistance due to additional clerical responsibility, that is, the perceived time and potential technical difficulties involved (Foster and Gibbons 2005; Swan and Brown 2005). Copyright further compounds the temporal barrier, as researchers may feel uncertainty regarding publisher self-archiving policies, resulting in time spent contacting publishers to amend or get clarification regarding copyright agreements (Kim 2010). Ultimately faculty members who wish to respect copyright agreements often avoid actions that they perceive to infringe upon permissions (Kim 2011). Those who do self-archive and contribute to IRs “[tend] to have a good understanding of copyright issues in self-archiving” (Kim 2011, 252).

Aside from technical and temporal barriers, faculty members may wish to self-archive via alternative avenues such as subject-based repositories or academic social networking sites (ASNS) instead of IRs (Borrego 2017). Authors in Physical Sciences and Math have been noted to prefer subject-based repositories, while authors from Social Science, Humanities, and Arts were more likely to have deposited to an IR (Creaser et al. 2010). ASNS or subject-based repository use instead of IR should not be viewed as a zero-sum equation, since the similarities between ASNS and IRs can be beneficial to the growth of IRs (Makula 2017). For example, uptake in IR usage in the field of Science could be attributed to Science faculty members’ familiarity with
repositories and self-archiving due to the popularity and longevity of subject-based repositories such as arXiv (Dubinksy 2014).

The literature discussing faculty members’ motivations for using the IR does not portray consistent findings. In a study of academics’ perceptions of IRs in Nigerian universities, the nature of responses was positive and generally accepting of IR usage, regardless of faculty member rank (Ukwoma and Dike 2017). This contradicts Oguz and Assefa’s earlier (2014) finding that for each increase in faculty rank, faculty members were less likely to have a positive perception of the IR. Another noted disincentive to IR use is scholars’ production of resources for personal and professional benefit, rather than for the benefit of the organization they serve (Abrizah, Hilmi, and Kassim 2015).

Although mandating open access (OA) through policies at an institutional or funding level are one way to motivate faculty members to deposit their work, faculty members have been documented as being resistant to mandates (Yang and Li 2015). Furthermore, OA mandates alone are not enough to motivate faculty members to self-deposit; rather, library-initiated identification and requests for articles for the purpose of mediated deposit have a larger impact on the rate of deposit (Zhang, Boock, and Wirth 2015). Other faculty member motivations for IR use include belief in the mutual benefit of sharing knowledge, and reward systems such as financial incentives, course reductions, and additional sabbaticals (Seonghee and Boryung 2008). Additionally, active promotion of the IR (e.g., librarians meeting with individuals or small groups of faculty members) instead of passive promotion (e.g., linking from library webpages) has been shown to be more successful in garnering IR use (Hwang et al. 2020).

**Research Question**
While many of the studies cited in this literature review also assess faculty members’ perceptions and attitudes towards the IR, the primary goal has often been to identify faculty members’ familiarity with IRs (or lack thereof). The present study builds off of this foundation to engage with faculty members in asking them to identify specific concerns that they may have. This study sought to answer the following question: What attitudes and perceptions do faculty members, graduate students, and other stakeholders have regarding the IR? The answer to this question could inform librarians promoting IR uptake and guide IR decision-making.

**Definition of Terms**
In discussing IR usage, I define user broadly, as a user may be in the role of depositing an item into the IR, or as an individual searching or downloading items from the IR.
To **self-archive** is to deposit a version (usually a pre- or post- print) of a work into an open archive or repository. Examples of available platforms that serve this purpose are institutional repositories; academic social networking sites; subject repositories; or personal websites. To self-archive does not necessarily mean that the author(s) themselves have to archive; some institutions have someone in a mediator role to facilitate the archival of articles.

Due to the transient nature of academia, where academics may be associated with multiple different institutions throughout their careers, for most questions in this study when the IR is mentioned it refers to institutional repositories in general, and not Scholarship@Western in particular. Therefore, unless specified, IR refers to IRs in general, and only when called by name (e.g., Scholarship@Western) am I referring to Western’s specific IR. This is in part to include perspectives on the overarching concept of IRs, including academics past experiences with them, as well as serving to extend the frame of this study to other IRs.

**Methodology**

**Theoretical Framework**

I used a grounded theory methodology to allow for inductive exploration of themes that arose in the study. Grounded theory methodology encourages foundational conceptual categories that can be built upon to synthesize and observe patterns that arise in data (Charmaz 1996; Birks and Mills 2015). I created survey questions from themes that I observed in my initial literature review, and themes that emerged in aggregate survey results became my interview prompts in later stages of the study. I coded all interviews using a grounded theory coding methodology. As I reviewed the transcribed interviews, I tagged common themes, ideas, and concepts. I then coded interviews sentence by sentence to highlight more specific themes and sentiments expressed by participants.

**Survey**

This study was approved by Western’s Human Research Ethics Board. The first phase of the study entailed a survey consisting of 32 questions (see Appendix A). The survey was hosted by Qualtrics. To be included in the study, participants had to be graduate students or faculty members at Western. Potential participants’ emails were obtained from the Western website where they were publicly posted. An email invitation to participate in the survey was sent out on two occasions. Snowball sampling methods were also applied, wherein some participants shared the link to the survey with their graduate student or faculty colleagues within their departments. The email
was sent to 3,915 individuals, not including the number of individuals who may have received the link from snowball sampling. There were 316 responses. Every faculty was represented in survey responses, with a minimum of 5 responses from Law and a maximum of 78 responses from Social Sciences. Most responses came from tenured or tenure-track (n = 156) faculty members, followed by graduate and post-doctoral students (n = 104), part-time and limited term faculty (n = 41), and the remainder self-identifying as Other (n = 15). At the end of the survey, participants had the opportunity to opt-in to a follow-up interview to further explore perceptions and attitudes of the repository in greater detail, which constituted phase II of the study.

After the first email invitation to complete the survey in phase I of the study, there were some replies that the survey response options were limited (e.g., multiple choice), and participants wished to indicate or clarify further in responses beyond what the survey framework allowed. Prior to the second email invitation being sent out to potential participants, the survey was modified slightly to provide a blank field at the end of some multiple-choice questions, as well as a text box at the end of the survey to allow participants to comment on any other items they felt were not covered sufficiently by the survey. While the general semantic content of the questions themselves remained the same, the initial 150 respondents who participated in the survey did not have the same opportunity as those in the second wave, who had the chance to reply in a more detailed manner.

Interviews

There were 10 participants for the interview in phase II of the study. All interview participants were faculty members, as no graduate students opted-in for this component. Faculties and status of interview participants are provided in Table 1. Interviews were conducted in person on campus at Western. Interviews were semi-structured to allow participants to bring in their own experiences and perceptions; the guiding questions I used are provided in Appendix B. Interviews were approximately 30-45 minutes in length, were audio recorded, and transcribed by me. The purpose of these interviews was to discuss aggregate data findings from the surveys. Specifically, interviewees were asked to reflect upon the aggregate findings relating to the faculty to which they belonged (or most identified with in cases of cross-appointment). The opinions contained in the quotations included represent the perspective of the interviewee; moreover, the interviews were exploratory and neutral in tone. As such, I did not comment on misconceptions about OA or IRs during interviews.
For the third and final phase of the study, three librarians were contacted to take part in an interview. These semi-structured interviews were also conducted in person at Western, and ranged from 30 minutes to an hour long. While the follow-up interviews with faculty members were meant to provide clearer insight to specific faculty’s perceptions of the IR, the interviews with the librarians focused on aggregate data from the survey and prior interviews overall, to provide a larger picture of the libraries’ goals and purposes for the IR.

Results and Discussion

In this section I will present results alongside analyses and discussion pertaining to all three phases of the study. The organization of this section follows the themes and sub-themes that emerged from coding the phase II interviews.

In the first thematic section, “Causes for Resistance to the IR,” I explore the primary barriers to IR usage that interviewees mentioned. The first two subthemes pertain to researchers’ sense of agency over their intellectual material. While the “Branding” subtheme reviews participant concerns that research should be affiliated primarily with the researcher rather than the institution, the “Data ownership” subtheme explores participant concerns that research data should not be accessible for corporate exploitation. The most prominent subtheme in this section, “Resistance to OA,” explores participants’ feelings of disconnection from OA in general for reasons ranging from financial to the right to access information. Finally, the subtheme of “Subject-based repositories or ASNS” explores participants’ preferences to self-archive in venues outside of IRs.

<table>
<thead>
<tr>
<th>Number of Interviwees</th>
<th>Faculty</th>
<th>Status</th>
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<tbody>
<tr>
<td>1</td>
<td>Engineering</td>
<td>Tenure</td>
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<td>1</td>
<td>Health Sciences</td>
<td>Tenure-track</td>
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<tr>
<td>1</td>
<td>Humanities</td>
<td>Tenure</td>
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<tr>
<td>1</td>
<td>Medicine &amp; Dentistry</td>
<td>Limited-term</td>
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<tr>
<td>1</td>
<td>Science</td>
<td>Tenure</td>
</tr>
<tr>
<td>2</td>
<td>Social Science</td>
<td>Tenure</td>
</tr>
<tr>
<td>1</td>
<td>Social Science</td>
<td>Tenure-track</td>
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**Table I** Phase II Interviewee faculty and status.
In the second over-arching theme, “Current Uses,” participants discuss specific and unique ways IRs are useful to them. The first sub-theme, “Continued access for graduates,” explores participant concern for their students’ continued access to information and scholarly output post-graduation. In the “Dissertation and theses” sub-theme, participants remark on the utility and application of IRs for dissertation and thesis management. The emergence of the “Pre-print literature review” sub-theme focuses on participants’ use of IRs to capture pre-prints for literature reviews. Finally, participants acknowledged the utility of IRs for satisfying research funding OA mandates in the “Mandated OA and the Tri-Agency Open Access Policy” sub-theme.

In the third and final broad theme, “Next Steps,” participants posited ideas for future directions to improve their uptake of IRs amongst institutional researchers. The “Mediated deposit” sub-theme concerns potential avenues to help support the upload of research into IRs. A number of participants’ responses indicated that they were confused about, or not informed of, the specific advantages of using the IR as faculty, resulting in the sub-theme “Clarify benefits for faculty members.” Relatedly, the “Communication between library and users” sub-theme sees participants advocate for more information sharing between the library and its stakeholders. Some responses indicated specific IR features that participants weren’t comfortable with, so the “Enable opt-in components” sub-theme emerged. Discussion of incentivizing and rewarding IR use resulted in the “Tenure, promotion, and merit” sub-theme. Similarly, incentivizing IR use through risk of punishment for not adhering to funder rules created the “Enforcement of tri-agency policy” sub-theme. Lastly, participants’ ideas regarding growing the reach and scope of IRs and their contents established the “Collaboration” sub-theme.

I. Causes for Resistance to the IR

a) Branding

[The IR] looks like a PR and branding exercise, I don’t think it has anything to do with scholarship. (Social Science faculty, tenured)

The term institutional repository implies that the system is designed to support and achieve the needs and goals of the institution, not necessarily those of the individual. While this “institutional representation” could potentially carry a negative connotation associated with the ethical implications of intellectual property, ownership of ideas, and representation associated with labour, a librarian that was interviewed in Phase III saw it in a different way:

I see it as one place that can represent the institution. This is the research of Western. It shows global impact—Antarctica is the only place we haven’t had a download from. On
the other hand, we do have features that showcase the individual scholar. It’s a place where individuals can see how their work is used. There are features in there that will help people tell their story. I don’t think it’s an either/or. (Librarian 3)

The question of branding is not a zero-sum equation between the institution and the researcher. The important lesson here is in communicating this message to faculty members to assuage presumptions that it may be such.

b) Data ownership

While we pay Elsevier right now for this service, I have not had to my satisfaction an answer that [they don’t carry out] business practices which includes selling or otherwise leveraging the information within the publications, or information about patterns of access of publications and I would be very surprised if [they] didn’t. (Information and Media Studies, tenured)

The issue of data ownership and use is a larger, stickier, ethical issue, and one that I informally hypothesized would have been a prominent issue for participants who post in the repository, given the IR’s recent acquisition by Elsevier. In actuality, any sense of what the IR was and how it functioned was so cursory amongst the vast majority of participants in the study, that issue of data ownership did not come up as much as I had anticipated. On one hand, this supports Western Libraries in their path of choosing an IR product that most suits their current needs, which is general IR use. On the other hand, the lack of knowledge about the IR indicates that faculty members likely do not know or understand the data use or ownership risks implicit therein.

In a big data society (boyd and Crawford 2012), even small pieces of data, such as name, email address, IP address, faculty information, etc., can allow for other deidentified data to be reidentified (Mulligan et al. 2016), and any participation of any given individual also weakens the privacy network surrounding that individual. Given the extent of the products under Elsevier’s umbrella (e.g., Mendeley, bepress, Scopus, and Pure), the size of the dataset acquired by Elsevier from the users of all of these products and services is substantial, and therefore presents a greater risk of misuse. While such risks may be necessary, limited, or warranted, they should still be acknowledged as risks and be dealt with mindfully as such, in consultation with affected parties (i.e., any IR user). Whilst sweeping decisions (like cutting ties with bepress, for example) are not necessary, it is up to faculty members and librarians together to think through such ethical implications and put pressure on the institution and its administration where necessary in order to mediate unnecessary risks.
c) Resistance to OA

If everything were open access you'd get people who are not necessarily capable—I mean there will be people who are, but there will be people who are not, and you don't want people doing the self-diagnosis thing at home. (Medicine & Dentistry, limited-term)

This idea that you should be open is one thing, but open with whom and should information be shared with people who don't understand what the information is as well. What do you do when somebody opens a book and reads it and goes up to the librarian and says, “So I'm going to die, aren't I?” (Engineering faculty, tenured)

As you will see from the volume and variety of concerns in this section, resistance to OA is a big barrier to repository usage. In the excerpts above, there is a concern of potential negative outcomes of equal access to information, such as self-diagnoses at home without the full context or background in a particular field of study. Other parts of the resistance to the idea of OA relate to dissatisfaction with article processing charge for OA publishing models:

I am moderately cynical about OA, not because I don't think OA isn't a good idea [sic], but because people don't understand the budget model. [...] One thing that's frustrating is that a lot of the OA journals are clearly not doing $5000 worth of work, in my opinion. (Science faculty, tenured)

Yet another theme of resistance to OA publishing was that the problem seemed so insurmountable so as to make the actions by any individual irrelevant or too miniscule to help make any headway:

I'm still at the mercy of these publishing companies anyways, so I guess my biggest hesitation moving forward is, what difference is it going to make? (Medicine & Dentistry, Limited-term)

The final source of resistance to OA mentioned in the interviews relates to the question of fairness of the financial input/ownership of research by a particular country:

Even if it's freely accessible to any general public in any other country in the world that doesn't pay taxes in Canada, you know [...] it's like saying should a Canadian corporation even have free access to research that they haven't paid for? (Engineering, tenured)

This particular participant was responding to a conversation about research being publicly funded in Canada, but that tax-payers still had to pay for a subscription to read the research that they funded. The concern indicated was that OA benefits people outside of the scope of those who pay taxes: people in other countries, for example, or corporations1.

When these areas of resistance were shared with librarians at Western in phase III, they made it clear that the emphasis on recruitment for the IR is not put on

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1. Corporations in Canada do pay taxes, thus, do help to contribute to publicly funded research.
changing the minds of people who do not already agree with or support open access initiatives:

We’re just looking for champions at this point. I don’t want to say that it’s a waste of time to exert effort to convince someone who is reluctant. But perhaps at this stage, our expenditure of resources is better used. (Librarian 2)

Focusing our efforts to new graduates, and new researchers, [...] and not worry about the tenured. Why try to convince someone who’s not into it, who thinks OA is vanity publishing [...] Starting from 0 is hard, but starting from 5 or 6 is easier. (Librarian 3)

Survey results from phase I show that graduate students are more likely to feel enthusiastic about supporting OA in general, compared to tenured faculty members (see Figure 1). In examining the number of participants who felt the issue was of extreme importance to them, only 36 (27%) of tenured faculty members identified it thusly, in contrast to the 63 (64%) of graduate students who felt the highest level of enthusiasm on the topic. Of the 132 responses to this question from tenured faculty members, 15 participants (12%) noted that the issue was less than moderately important to them, as compared to 3 of 99 (3%) of graduate students who felt the same. These results support the current strategy of focusing IR uptake on a population for whom a message of OA is already more salient.

**Figure 1** Responses to the survey question, “How do you rate the importance of open access to you in relation to promoting the progression of society as a whole?” Responses filtered to highlight difference between graduate students’ and tenured faculty members’ perceptions.

The strategy to focus on new graduates and researchers is clear from repository usage at other large institutions as well. For example, the University of Toronto’s IR, TSpace, has 24,917 items in its School of Graduate Studies collection compared to only 9,476 in its Faculty Publications collection (TSpace 2021). While mandating IR use for graduate
students as a condition for graduation guarantees a captive audience, more action is needed so that this audience of potential champions continues to use the IR over the course of their careers. A potential next step could be a follow-up effort so that recent graduates and new researchers understand the benefits of OA for themselves as researchers, as well as to dispel common myths about OA.

d) Subject-based repositories or ASNS

I use academia.edu a lot […] there is one constituency that is emerging in [a South Pacific country] where people go to academia.edu to see what is written about them, and they download it and they read it and they comment on it, that’s pretty good open access stuff. That’s incredibly impressive, and I wouldn’t have known that without their metrics. (Social Sciences, tenured)

Several interview participants preferred using academic social networking sites instead of IRs. A common sentiment was that searching an IR requires the searcher to have advanced knowledge of where to look in the first place, whereas searching ASNS required only a web browser. Since most OA versions of an article are searchable, findable, and even favoured by Google Scholar, this sentiment indicates another educational gap faculty members may have concerning IR utility.

While the survey did not specifically ask about ASNS, it did inquire about other types of repositories, such as subject-based. When asked what style of repository they preferred, only 42 (14%) participants said that they prefer to use an IR, while 152 or 49% said that they preferred to use subject-based repositories (35% or 107 people replied N/A, 3% or 8 people replied other), as represented in Figure 2.

**Figure 2** Responses to the question, “Do you find IRs or SRs to be more useful for depositing your research?” 308 total responses.
One point of concern with ASNS is their ownership and business model: they are privately owned and for-profit, not associated with an institution, and although they may be presently OA, this may not necessarily be the case for the future (Dingemanse 2016). Furthermore, academia.edu lacks the granular datasets and robust metadata offered by bepress’ Digital Commons repository platform, which are important as many faculty members consider citations as currency for advancing a career (Dingemanse 2016). The citation management software Mendeley, which can also be used as an academic social networking tool, offers an illustration of this point: the tool was acquired by Elsevier in 2013 (Lunden 2013), and its services are now split in a freemium model, where some basic services are free, but other services require a paid account upgrade. This is an example of the larger trend of Elsevier’s monetization of scholarship.

Furthermore, ASNS and subject-based repositories do not have the robust preservation policies that many IRs feature. In concern of archival integrity, researchers should be encouraged to deposit in IRs for long-term preservation. These are all potential points of conversation with faculty members to persuade them to archive in an IR instead of, or at least as well as, using ASNS or subject-based repositories. Scholarly communications librarians can leverage faculty members’ familiarity with ASNS to outline some similarities and differences between the two platforms.

II. Current Uses

a) Continued access for graduates

We have a responsibility to our patients, even those of us who are no longer practicing clinically, we know those patients trust us to know what’s going on. Like you would want to trust your doctor if you were in medicine, you would want your doctor to know what’s the latest on this topic. (Health Sciences, tenure-track)

In fields that deal directly with on-the-job types of training, such as Engineering, or Health Studies practitioners training clinicians such as physiotherapists or occupational therapists, there was an appreciation for the existence of the IR to keep past students in the know with new and relevant literature. Data released from shadow library Sci-Hub shows that the most accessed journals are from the fields of Engineering and Natural Sciences, and usage is correlated to fall within regular workdays and hours (even adjusting for time-zones), which suggests that users are in the workforce (Greshake 2017). Although some users with library access may still prefer the convenience and peer network components of SciHub, since many academics in the workforce have some access to journals through their own libraries’ subscriptions, part of this use must be through employees in the private
or corporate sector. The value IRs add to research is in part through the metadata, indexing, discovery, and aggregation components, which allow article harvesting and discoverability through Google Scholar, other search engines, and databases, and which mirror the ease-of-use component represented by Sci-Hub. As this component was lacking in respondents’ perception or knowledge of IRs, it is a key area for scholarly communications librarians to focus education outreach initiatives about.

b) Dissertations and theses

[School of Graduate and Postdoctoral Studies] loves it because it’s helped them a great deal. It’s helped with the whole process of managing the dissertation and thesis, you’ve submitted a paper and people need to read it and comment. And it’s now all within the system so you’re not printing 8 copies of a 300-page thesis and sharing it all around, so we’re saving trees. (Librarian 3)

The reasons you can see people who read the theses electronically as examined make far less comments on the thesis, than people who have it on paper, because marking up the PDF is far more tedious than scribbling on a paper. [...] Even a student that has been successful there is a lot of useful feedback you can give them, and they have it there, because people don’t mark-up PDFs. (Engineering, tenured)

Since Scholarship@Western is predominantly used for theses and dissertations (as mentioned above, a fact that is mirrored by many other IRs, like TSpace) the conversation about the convenience of this surfaced frequently in interviews. Specifically, the conversation emerged in relation to faculty members looking up a potential new colleague that may have been up for hire. In order to read past work, they would look at the IR from the institution where they last graduated from to read their thesis. This would also be the case if a faculty member wanted to look up the work of a former student, and they found the easiest way to access said work would be in the IR.

While the conversation about theses in IRs generally was positive, one respondent voiced a concern over the impact of digitization, saying that digital theses receive less feedback than physical ones marked up with ink². This piece of feedback surrounding a faculty member’s experience of wanting to provide the best outcome to potential students is worth noting, but may also be a point of personal preference. If a thesis was submitted to an IR, the examiners for a dissertation could print the work being examined if it best suited them, or at least would have an option. See Part III for further discussion about “opting-in” to elements of the IR.

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2. Note that at Western preliminary dissertations are uploaded prior to examination. Candidates upload a final revised dissertation after a successful examination.
c) Pre-print literature reviews

I mostly look at [the IR] when I go to find [articles] … I’m a part of two systematic literature reviews, and we make sure we try to capture literature that has not yet been published perhaps, that is not necessarily in the journals. (Health Sciences, tenure track)

A particularly unique benefit of repositories is that since they commonly host pre-prints, they are an avenue for capturing the fullest and most recent extent of emerging literature. While numerous interviewees mentioned the strength of IRs to capture pre-prints for research projects like literature reviews, survey results showed the majority of participants (82%, or 244 participants) did not perceive the best quality of research to be in IRs (see Figure 3). This suggests that for many, IRs and their contents may not be part of research processes.

![Figure 3](image)

**Figure 3** Response to question, “Do you believe the best quality of research can be found in IRs?” 297 total responses.

One of the dilemmas of academic publishing is how to factor in the speed at which it is processed: there is a trade-off between instantaneous sharing on social media, websites, and blogs for material that has not had a chance to be vetted through traditional channels, but is first past the post with an early timestamp (and potentially DOI and associated benefits, pending the IR), in comparison to a well-polished and thoroughly vetted academic article that takes months or even years to be shared widely. Especially in fast moving fields like Science or Health, sharing a pre-print to a repository for faster circulation while waiting for the final product is an option that should be shared and promoted amongst faculty members. Strategic promotion of IR use for this purpose would increase searches for the most up to date pre-prints as well, leading to increased downloads and citations.
d) Mandated OA and the Tri-Agency Open Access Policy

It’s usually there in time for when we put in a grant proposal, but not like, waiting right at the moment to do it. We adhere to the publisher rules, but not to the Tri-Agency rules. (Science, tenured)

If you create a policy that says everyone has to post to the scholarly repository, you’ll just create a world of anger. (Humanities, tenured)

While some participants did mention that they use the IR to satisfy the Tri-Agency Open Access Policy, other participants expressed wariness of mandated deposits. Participants prioritized honouring publisher copyright agreements over OA mandates. This prioritization seems largely in part because of the litigious nature of publishers in comparison to the leniency of funding agencies. What many participants did not seem to be aware of, however, was that both policies could easily be met through implementing embargo periods when they upload their material, which indicates a further need and opportunity for librarians’ promotion of both IR features as well as awareness for author rights in the publication process.

III. Next Steps

a) Mediated deposit

I could build up a relationship with somebody where I know that person is the person who handles this, and the next time they do it: oh no! It’s different! The libraries here have been completely restructured into these different kinds of areas and that’s a change, so I don’t know who is going to be responsible for what yet. (Engineering, tenured)

[uploading a white paper series to the IR] has not been done since [departmental liaison librarian] left, because I lack the competence to do it myself. (Social Science, tenured)

Not all faculty members were supportive of the mediated deposit idea, for a few reasons. There was a general appreciation and recognition that it is not necessarily the most resource efficient option. There was also a resistance due to insufficient relationship building with the library staff in charge of mediated deposit that is perceived to have potential for frequent change due to restructuring.

While mediated deposit is an effective solution to populate the IR with content, it is not a cost-efficient method. Mediation, however, does address many of the barriers

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3. The Tri-Agency, which is comprised of the Canadian Institutes of Health Research (CIHR), the Natural Sciences and Engineering Research Council of Canada (NSERC), and the Social Sciences and Humanities Research Council of Canada (SSHRC), is a federal grant program intended to support research. As of May 1, 2015, all grant recipients must comply with the Tri-Agency’s Open Access Policy, which has mandated that any peer-reviewed articles resulting from research that is supported through their federal grants must be made “freely accessible within 12 months of publication” (Government of Canada 2016). This can be accomplished either through submitting research to an institutional repository, or through publication in an open access journal. This policy has had varying levels of support from institutions, ranging from encouragement (often depicted by “Open Access Policies”) to enforcement (often represented by “Open Access Mandates”).
to using the IR. It helps those who feel technologically unequipped to perform the task of self-archiving. Furthermore, mediation works to overcome copyright barriers that faculty members and graduate students expressed as prohibiting them from uploading to the IR. Finally, mediated deposit promotes consistent application of metadata, facilitates maintenance of the content being uploaded, and minimizes the failures or errors in indexing, all of which promote better discoverability of content in the IR.

A semi-mediated service could be an option. Hiring a graduate student (perhaps a PhD student so that there would be potential for a longer work term with less turnover) to be responsible for their departments deposits is one model. This model also is a way to avoid Xia's (2008) problem of low-quality deposits, by ensuring that the metadata associated with the article is detailed and accurate (therefore findable and retrievable), as a graduate student would have in-depth knowledge of the field.

Another idea would be to run annual sessions at the library where a librarian is present to assist and educate while faculty members and graduate students work through the process, so that they are learning from experience and feel more comfortable in the details of how, when, and what to deposit for later projects, and if questions should arise, they have experience working with the librarian who held the session.

b) Clarify IR benefits for faculty members

The IR is a nice thing but it really relies on outside researchers to stumble upon our research. This means that the algorithm of the search engines guiding readers to us is extremely important and completely out of our control. (Medicine & Dentistry, limited-term)

In every interview, participants were asked what could be done to incentivize faculty member participation in the IR. Many of the interviewees' recommendations, such as mediated deposit, timed-deposit to work around embargo periods, and library support, are already offered by the library. This suggests that the course of action for the library is to clarify the rewards and benefits to faculty members more clearly and emphatically.

The faculty members interviewed suggested that one of the main reasons for IR buy-in was increased engagement metrics. Participants relayed that they noticed increased readership via Google Scholar (which links to OA where possible due to IR assigned Dublin Core metadata) to the repository. Faculty members cited this as motivation to continue self-archiving via the IR. However, not all faculty members realize that having an openly accessible version of their article works in their favour (see the quote from the limited-term Medicine & Dentistry participant that opened
this section as an example). While it is true that algorithmic control is pervasive, ultimately algorithms are written by humans, are subjective (boyd and Crawford 2012), and operate on a “pattern of inclusion” (Gillespie et al. 2014), where data that is available (i.e., via an open format with standard metadata with Dublin Core encoded controlled vocabulary in an IR) is “algorithm ready.” It is well documented that OA is a factor that can lead to greater citation (SPARC Europe 2019), so communicating this as a reason to use it can help to demystify the IR and its advantages in a manner that is particularly salient for faculty members. Another key point to communicate is that pre-prints in an IR are a faster way to communicate results (and elicit an early indication of response).

c) Communication between library and users

I need to be educated really, what is the acceptable thing I could do? It’s all very well saying, “wait a year,” but a year goes by and I’ve forgotten about that. (Engineering, tenured)

I think that as a faculty member we don’t communicate that much with the library anymore—at least most of us don’t. We don’t get any newsletter about what would be useful, the chairs aren’t sending us any information, like how would we know about anything? (Social Sciences, tenure-track)

Multiple interviewees, with varying levels of seniority, wanted to see librarians open more channels of communication with faculty members. This is a call to action for the library to be more proactive in reaching out to educate and share resources for learning how, what, and when to contribute to the IR. This may speak more broadly to the disjuncture in communication between some faculties and the library at the institutional level: what other important library resources are not being well-utilized due to lack of awareness or a lack of communication? Specific channels for communicating could include using social media to better service this purpose. Some faculty members expressed in the interviews that they would like to receive emails with more information about the IR, what it is, and how to use it.

d) Enable opt-in components

I would use the IR at Western if it did not count the number of downloads and views. This record-keeping only contributes to the culture of “metricization” that infects today’s academic institutions. (Social Science, tenured)

Given the ethical and privacy issues that must be considered in the operation of and contribution to the IR, it is not surprising that a number of participants expressed concern related to privacy. Furthermore, one survey participant was not pleased with their name being associated with another’s through the IR for multiple reasons. Firstly, in the case of a thesis, the subject of the thesis was not related to the faculty member’s own area of expertise, and as such they found it misleading to associate their name with the publication. Secondly, in other cases, the faculty member failed
the theses (but the theses passed by majority decision), and the faculty member did not want their name to be associated with that particular project.

Other participants expressed concern over usage data records. While the metadata component of IRs may be deemed as useful to some for its ability to track where and what is being downloaded, to others it acts as an extra measure of academic worthiness in a profession that is already teeming full of pressures (Szadkowsksi 2016). If the IR featured an ability for users to opt-in and out of certain elements (like the ability to “untag” themselves from items for example), it might be fairer and more appealing to individual stakeholders.

e) Tenure, promotion, and merit

Somehow counting what happens with the repository as part of our tenure, I think that would be what is most helpful. (Health Sciences, tenure-track)

If the university is trying to change things, the dean could make it required that 75% of departments’ work gets [in the IR] in some version. If it’s linked to merit, people will do it. (Social Science, tenure-track)

No interview participants were able to identify or speculate on a link between tenure and open access publishing. What mattered for tenure review was publishing in certain journals whose named carried more prestige, and whether or not that journal was OA did not matter; nor did it matter if the author had paid more for the Gold OA option for the paper when it came to tenure review. While this link between tenure and OA publishing doesn’t presently exist in the system, many participants did identify tenure as a potential source of motivation to encourage researchers to deposit their work in the IR.

FIGURE 4  Response to the question, “If tenure consideration were strengthened based on high amounts of views/downloads from an IR, would you be more likely to use it?”, 248 total responses.
The survey results displayed in Figure 4 (76% of participants support tenure consideration for IR use) encourage the idea that if there is a positive association between IR use and tenure review, faculty members would be more inclined to self-archive. Figure 5 shows responses to a question asking about IR deposit after tenure, where only 24 of 100 (24%) participants who had already achieved tenure said they do use it more, while 67 of 129 (52%) of all other non-tenure (i.e., graduate students, part-time, full-time, tenure track, limited term contract, and other) participants said that they would deposit more after tenure. For as long as academia’s present tenure and promotion system is in place, including a more holistic approach to consider faculty members’ contributions to an institution and to their field could be modified to incorporate IR use.

f) Enforcement Tri-Agency Policy

NSERC brought this rule in, the Tri-Agency policy, and there’s massive problems with it. First of all, they are never going to enforce it, and I know that. (Science, tenured)

Hypothetically, the Tri-Agency OA mandate that requires publicly funded research to be made open access within 12 months is a great support for OA (and IRs by association, being one of the easiest and most cost-effective ways to make an article OA). However, this OA policy isn’t actively mediated or enforced, and it is widely known that it isn’t (Larivière and Sugimoto 2018). Thus, this supposedly hard policy with stiff penalties (such as seeking a refund for the award already paid) instead acts as a soft request.
Ultimately, if the Tri-Agencies supported their mandates by following through and checking on the open status of projects that have received funding, it would do more to support OA initiatives like IRs. Presently, the “Tri-Agency Process for Addressing Allegations of Policy Breaches by Researchers” (Panel on Responsible Conduct of Research 2019) is predicated on receiving allegations of breaches of policies (such as not adhering to the OA mandate). Rather than having the system be based on a passive model relying on external policing, implementing a more active model whereby the Tri-Agency requires proof of OA posting, and checks proof (even through random audits if that is a more resource-effective option) would go a long way in helping to support OA initiatives like IRs.

g) Collaboration

We need to find ways for a federated search across the IRs. (Information and Media Studies, tenure-track)

One faculty member understood the wider issue of production and sale of academic content by proprietary publishers as a far-reaching issue, deserving of a solution that would be enabled by collaboration, such as OCUL’s Collaborative Futures project that is working to create a shared catalogue using group purchasing power (Ontario Council of University Libraries 2018). For another participant, potential modes of collaboration were narrower than scholarly communications, and were based on consortial models of collaboration, citing Canadian Association of Research Libraries Open Repositories Working Group as an example. A few interview participants envisioned a mode of collaboration where all IRs (in a specific region, like Ontario or Canada) could be included in a federated search across all IRs.

This specific imagining of linked IRs has existed in a smaller way before through “Theses Canada Portal,” a branch of Library and Archives Canada. In its own words, “Theses Canada, launched in 1965 at the request of the deans of Canadian graduate schools, is a collaborative program between Library and Archives Canada (LAC) and nearly 70 universities accredited by Universities Canada” (Library and Archives Canada 2020). Theses Canada is exclusive to theses and dissertations, and as such, in order for it to meet the ideal of fulfilling a federated search across the IRs, it would need to widen the scope of its purview to harvest other items in IRs as well, substantially increasing the workload required for this project. Another example of a now defunct federated search on a national scale is the Canadiana Discovery Portal, which indexed the digital collections of libraries, archives, and museums across Canada. Both Canadiana Discovery Portal and Theses Canada stand as examples for the possibilities of federated IR searches in the future: a repository that provides access to recent and historical scholarship in multiple formats (articles, monographs, theses, etc.).
Conclusion

While some of the results from both the interviews and surveys indicate that at least a few respondents were aware of and concerned about IR ownership, my analysis shows that a number of other concerns about barriers to use, impacts of current use, and future directions are more prevalent. The resulting sentiments and opinions expressed by potential and actual IR users point towards the elements of IRs that stakeholders are more concerned with, which in turn may better help librarians working with IRs to shape their approach in growing IR content, use, and impact.

While the IR lies in the domain of scholarly communications librarians, many of the barriers and dilemmas may be challenged by a full range of academic librarians, whether they work in a team environment or as a liaison; whether they work primarily with collections, instruction, user experience, or scholarly communications. For example, instructional librarians may have opportunities to educate faculty members through learning objects (like library guides or tutorial videos) and in research consultations. They may also be able to influence the next generations of faculty members, instructors, and researchers into best practices in regards to self-archiving by working it into workshops or information literacy classes for undergraduates. Librarians in administrative positions can advocate for more resources and more emphasis on open policies and mandates from university administrators.

This study stands as a platform to amplify voices of IR stakeholders in their concerns and feelings that guide actions (or inactions) towards the IR. Ultimately, many of the attitudes and perceptions and resulting next steps can be characterized as being helped by greater transparency and communication between the library and faculty members as well as students in regards to the IR, so that the IR may function optimally to serve the institution, the academic community, and any human who stands to benefit from open access.

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Conflict of Interest Statement

The author of this article is a CJAL editor. When submitted, this article went through CJAL’s standard peer-review process, but the review was handled outside of the OJS system in order to ensure anonymity. The author was not involved in the evaluation of this submission or the decision to publish.
REFERENCES


Appendix A: Survey Questions

1. Which faculty do you primarily work or study within? Circle one option.
   - Arts & Humanities
   - Don Wright Faculty of Music
   - Education
   - Engineering
   - Graduate & Postdoctoral Studies
   - Health Sciences
   - Information & Media Studies
   - Law
   - Ivey Business School
   - Schulich Medicine & Dentistry
   - Science
   - Social Sciences

2. Which best reflects your current position at Western? Circle one option.
   - tenured
   - tenure-track
   - limited term contract
   - part-time
   - full-time
   - postdoctoral student
   - graduate student

3. On average, how many works (articles, book chapters, books/e-books, reports, etc.) do you publish per year? Circle one option.
   - 0
   - 1-3
   - 4-6
   - 7-9
   - 10 +

4. Have you ever posted a thesis or dissertation to an institutional repository (Scholarship @ Western, or any other)? Circle one option.
   - Yes
   - No
5. Have you uploaded any of your own research to any institution’s Internal Repository before? (check all boxes that apply).
Yes – At Western
Yes – At other institutions
No

6. How many of your articles have been deposited in the UWO’s Institutional Repository (IR), Scholarship@Western, in the past 12 months? Circle one option.
0
1-3
4-6
7-9
10 +

7. Have you ever self-published any of your work on a personal repository (such as a blog or a website)? Check all boxes that apply.
No
Blog
Website
Other ____________

8. Do you find institutional repositories (such as Scholarship@Western) or subject based repositories (such as arXiv or PubMed) to be more useful for depositing your own work, and for finding others’ work? Circle one option, or supply your own.
Institutional Repository
Subject-based Repository
Other ______________
N/A (I am not familiar with/ haven’t used either type of repository)

9. Open access may be defined as the free, immediate, and online availability of research articles. How do you rate the importance of open access to you in relation to…: Circle one option.
a) …your professional goals?
Very important
Important
Neutral
Low importance
Not at all important

b) ...promoting UWO’s goals?
Very important
Important
Neutral
Low importance
Not at all important

c) ...promoting the progression of society as a whole?
Very important
Important
Neutral
Low importance
Not at all important

10. Do you believe that submitting your research to an IR has a positive or negative impact on your tenure prospects? Circle one option.
Positive
Neutral
Negative

11. Do you (or would you) publish your work in the IR more frequently AFTER you’ve received tenure? Circle one option.
Yes
No

12. If tenure consideration would be strengthened based on high amounts of views/downloads from an IR, would you be more likely to use it? Circle one option.
Yes
No

13. Do you believe that submitting your research to an IR benefits your field of research? Circle one option.
Yes
I haven't thought about it
I don't know
No

14. Do the attitudes and cultures prevalent in your field influence your decisions regarding whether or not to submit your work to IRs? Circle one option.
Yes—It is the prevailing culture of my field to endorse open access, so I do, too.
Yes—It is not the prevailing culture of my field to endorse open access, so I do not feel that I should have to when no one else is.
No—It is not the prevailing culture of my field to endorse open access, but I do it anyways.
No—It is the prevailing culture of my field to endorse open access, but I don't support it anyways.

15. Do you believe the best quality of research can be found in in Institutional Repositories, currently? Circle one option.
Yes
No

16. Do you use IRs to download material for research? Circle one option.
Yes
I don't actively seek out research via this platform, but if I come across material from an IR, I'll use it.
No

17. Do you think some institutions' IRs are better than others? Circle one option.
Yes
No

18. Are IRs prestige related to the perceived prestige of the host institution? Circle one option.
Yes—if a school has a good reputation, the research it has available via open access on the IR is reputable too.
No—Some reputable schools do not post their highest quality of research on their IR, only in subscription journals.
I don't know.
19. If IRs and journals had the same level of prestige, would you be as likely to post your research in a journal? Circle one option.
Yes
No

20. What is the main reason for publishing in a journal? Circle one option, or write your own option.
   Tenure
   Prestige
   Tradition
   Department culture
   All of the above
   None of the above
   Other ________________

21. Do you feel the IR does more work to support your own academic career, or more to support the UWO community? Circle one option.
   My own work
   UWO’s community
   Both
   Neither

22. If the institution where you are presently employed (or enrolled) mandated that all work be uploaded into an open access IR would you: Circle one option.
   comply willingly
   comply reluctantly
   not comply

If you have not used Scholarship@Western, skip questions 23-26.

25. How well does Scholarship@Western meet the following needs or expectations of an IR? Check all needs that have been met.
   Easy upload/ submission process
   Comprehensive search tool
   Technological support (for help uploading or finding works)
   Copyright support (knowing which version of a work is permissible to upload)
   Research Gallery Page
24. Do you find the Scholarship@Western interface user-friendly? Circle one option.
Yes – very easy to understand and navigate.
Yes – with some effort and guidance.
No – not at all.
N/A (have not used it)

25. Is usability a factor in your decision to upload? Circle one option.
Yes, it is a factor. I find it easy to use, so do not mind making my work accessible.
Yes, it is a factor. I find it a hassle to use, between determining permissions and embargo periods, so I don’t bother.
No, whether or not the interface was easy to use, I would still upload.

26. Do you find the task of uploading your work to the IR to be: Circle one or write your own answer.
easy and straightforward
complicated and time consuming
other __________________
Appendix B: Interview Prompts

**Demographic Questions**
Which department and faculty do you belong to? For how long have you been publishing research? What other institutions did you study at or work for prior to UWO?

**Perceptions of Terminology surrounding IRs**
Main question: I’m here to talk about institutional repositories. To begin, would you share your thoughts on the institutional repository?
Optional further prompts for this question: Do you use the IR? Contribute to it? Why do you think Western has an IR? Is this a valid justification from your perspective? What are the qualities of an IR that are important to you? What qualities make some IRs better than others?

**Community**
Main question: Who would you identify as the main audience for your research?
Optional further prompts: Some researchers feel that their most immediate academic community are the scholars that work in their field, not necessarily their colleagues at their departments in their schools, given the permeable nature of academic location and employment. Do you feel that your immediate academic circle are colleagues in your specific field in other institutions, or your colleagues in your department at UWO? Is your work in the IR easily disseminated to your colleagues at other universities? Would you be more apt to publish in an IR if a respected colleague did, or does that have any bearing?

**Differing Views and Attitudes on Scholarly Communication**
Main question: What are the primary reasons that you do or don’t share your work in an institutional repository?

**Additional Questions (Open-Ended)**
Could you speculate on the relationship between open access publishing and tenure review or academic award? Is the existing system of academic award and tenure review complicit as a barrier to access? How? How can libraries and universities shift incentives in ways that reduce the reliance on, or the yielding to, proprietary publishers?